Abstract

CONTROL UNIT COMPRISING DYNAMIC FUZZY LOGIC CONTROL ELEMENTS, TEMPORALLY DISCRETE

The control unit (RE) of the invention has at least one control element (FA1...FA8), in particular with at least one integrating (FA6, FA8) and/or differentiating (FA7) transfer characteristic which is constructed as a temporally discrete dynamic fuzzy logic control element (FAx). A temporally discrete dynamic fuzzy logic control element (FAx) of this kind is for example a so-called fuzzy logic automaton, which has processing states (Zm'...Zn). It is advantageous that the control unit of the invention can be constructed with control elements that each have systematically dynamic fuzzy logic properties, and in which nonlinearities can be introduced in a targeted way for a desired control performance.

Fig. 3

15

Drawing Captions

[Top to bottom, left to right, by block symbol etc.]

Fig. 1 (Prior Art)

FU: Fuzzy Logic System

Fig. 2 (Prior Art)

FU: Fuzzy Logic System

Fig. 3 FA1: Fuzzy Logic Control Element

Fig. 4 FA2: Fuzzy Logic Control Element 1
        FA3: Fuzzy Logic Control Element 2
        FA4: Fuzzy Logic Control Element 3

Figs. 5 and 6:

P, I, D, PI = proportional, integral, differential, and proportional-integral
Fuzzy = Fuzzy Logic

Figs. 7a, 7b:

F1: Fuzzyfication
I1: Inference
D1: Defuzzification

Drawing Captions

[Top to bottom, left to right, by block symbol etc.]

Fig. 1 (Prior Art)

FU: Fuzzy Logic System

Fig. 2 (Prior Art)

FU: Fuzzy Logic System

Fig. 3 FA1: Fuzzy Logic Control Element

Fig. 4 FA2: Fuzzy Logic Control Element 1
       FA3: Fuzzy Logic Control Element 2
       FA4: Fuzzy Logic Control Element 3

Figs. 5 and 6:

P, I, D, PI = proportional, integral, differential, and proportional-integral
Fuzzy = Fuzzy Logic

Figs. 7a, 7b:

F1: Fuzzyfication
I1: Inference
D1: Defuzzification

AMENDED PAGE